









To: Massachusetts Non-Utility Parties From: Massachusetts NEEP Utilities

Subject: ES Appliance Metric 1

Date: March 22, 2002

In 2001, the ES Appliance 1 metric for the Massachusetts utilities (Massachusetts Electric, Nantucket Electric, NSTAR Electric, Unitil/Fitchburg Gas and Electric and Western Massachusetts Electric) was targeted at maintaining the Massachusetts Market Share of ENERGY STAR Clothes washers at 20%. The exact wording of the 2001 metric is as follows:

Achieve an annual market share for ENERGY STAR clothes washers in Massachusetts of 20% in 2001. For the purpose of this metric, market share will be defined as the percentage of ENERGY STAR sales reported for Massachusetts by D&R for EPA.

There were three potential levels of market share achievement. These were defined as the Threshold level at 18%, the Design level at 20%, and the Exemplary level at 22%.

Using the methodology cited in the metric, a market share of 20% was achieved by the Massachusetts utilities using data supplied by D&R International (D&R), EPA's ENERGY STAR program contractor.

The following information was provided by D&R for the year 2001.

D&R International Data (National Chain Stores) ENERGY STAR® – rated Clothes Washer Quarterly Sales

Quarter	Massachusetts	U.S.
1	18.13%	10.14%
2	18.92%	11.60%
3	19.91%	12.05%
4	23.20%	15.71%
Total annualized market share	20.00%	12.37%

Based on the 20% market share, the Massachusetts utilities have achieved 100% (or Design level) of the ES Appliance 1 metric (20%/20%=100%).

The following chart represents other indicators for clothes washer market share. This is for comparison purposes only.

	1998 ¹	1999	2000	2001
AHAM (Distributor Sales)	143900	145300	138800	139300
Utility Rebates	5407	15509	15663	14078
Rebates as a percentage of	3.76%	10.78%	10.78%	10.11%
Distributor sales				
APT (independent dealer	13.7%	18.5%	25.70%	27.5%
data)	(as of 5/98)			
D&R data (annualized)	N/A	N/A	19.09%	20.00%

¹ Program started May 1998.



Multi-Year Program Evaluation and Market Progress Reporting (MPER) Plan for the Massachusetts Residential Appliance Program

Submitted to:

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Executive Summary

This document is a plan for program evaluation and market progress reporting (MPER) for the ENERGY STAR®-labeled Appliance Program in Massachusetts run by Fitchburg Gas & Electric, Massachusetts Electric, Nantucket Electric, NSTAR Electric, and Western Massachusetts Electric. The plan is based on the program design as of November 15, 2001, incorporating expectations for program modification at that time. A transition plan prepared in early December was reviewed in developing the final version of this plan and all anticipated program modifications are incorporated into this plan.

These Massachusetts investor-owned utilities contracted with Nexus Market Research (NMR) to prepare a comprehensive three-year plan. This plan reflects NMR's current understanding of the program and its objectives. It should be viewed as a flexible working document that can be adjusted according to changing market conditions and program operating constraints such as budget.

Background and Objectives

The long-term goal of the Massachusetts ENERGY STAR Appliance program is to establish a market for high-efficiency appliances in the Northeast through development of the manufacturer/retailer infrastructure to increase availability, and increased consumer demand and awareness of ENERGY STAR-labeled appliances. The program is a direct descendent of the TumbleWash clothes washer program that began in 1998. In 1999 the utilities expanded the program to include three other appliances with ENERGY STAR-labeled choices: dishwashers, room air conditioners, and refrigerators. The specific goals and objectives for the program are to:

- ➤ Increase consumer demand and purchase of ENERGY STAR-labeled appliances
- ➤ Maintain strong sales of ENERGY STAR-labeled appliances to provide impetus for improved federal appliance standards
- ➤ Increase retailer and manufacturer promotion of ENERGY STAR-labeled appliances.

The program elements that are used to accomplish these goals and objectives are:

- ➤ Marketing to consumers and retailers
- > Retailer support in the form of sales training and promotional materials
- > Use of incentives as appropriate
- ➤ Working with federal agencies and manufacturers to ensure increasing energy efficiency standards

This MPER plan is intended to assist the utilities by providing guidance as to the steps that should be taken to monitor, assess and report the effects and outcomes of the program in a timely and cost-effective manner.

Program Outcomes and Data Sources

Section three of this MPER outlines the program theory and the outcomes that are expected to result from the program activities. Our conversations with the program staff suggest that the logic of the program is as follows:

Awareness increases → demand increases → supply increases → prices drop → standards supported

Table E.1 summarizes the outcomes and measurement activities that follow from this program theory.

Table E. 1
Outcomes and Measurement Activities

	Expected Outcomes	Indicators	Measurement Activity
A	Increased demand for ENERGY STAR-labeled appliances. Price reductions and decrease in average incremental costs.	 Sales of ENERGY STAR-labeled appliances Average cost of ENERGY STAR-labeled vs. comparable products Number and variety of ENERGY STAR-labeled products 	 Sales data tracking and market penetration analysis Retailer survey, mystery shopping, implementation contractor reports
>	Increase in awareness of ENERGY STAR label.	 Recognition of ENERGY STAR- labeled brand Knowledge of ENERGY STAR- 	> Consumer survey
>	Increased ability to accurately explain what ENERGY STAR-labeled is.	labeled brandConsumer response to retailer promotions	
>	Increased market share of ENERGY STAR-labeled Appliances	 ENERGY STAR-labeled appliances as a percentage of total appliances sold 	Sales data tracking and market penetration analysis
>	Increased awareness of ENERGY STAR-labeled appliance program.	 Awareness/knowledge of appliance program ENERGY STAR-labeled sales at 	Retailer survey, mystery shopping, interviews with purchasing executives,
>	Increased ability to accurately explain ENERGY STAR-labeled program.	retailer sites w/training ➤ Spending on co-op advertising ➤ Retailer awareness of ENERGY	implementation contractor reports
>	Increased presence of ENERGY STAR-labeled promotional materials on sales floors.	 STAR-labeled brand and meaning Number of stores with point of purchase (POP) material Types of retailer promotions 	

Program Monitoring and Evaluation Activities

The evaluation activities will need to be implemented in a timely fashion for these results to be useful both as input to the planning process each year and to provide necessary information for the regulatory process. Table E.2 describes the key implementation issues for the MPER.

Table E.2 MPER Implementation Schedule

**/1	MPER Implementation Schedule				
When		What To Do	Why To Do It	Priority	
Jan.2002	A	Issue RFP for Program	The Appliance program is being	Moderate	
		Theory Development (If utilities decide to hire a	redesigned. An updated program	to Low	
			logic and theory should be		
		consultant to help review and revise the program theory)	developed.		
		Tevise the program theory)			
	В	Issue RFP for 2002 – 2004	Desirable to have the consultant	High	
		Market Progress Report	doing progress reports on board as		
		Preparation	soon as possible because they will		
			be responsible for synthesizing all		
			tracking, evaluation and research		
E-1-2002	<u>C</u>	Calast Dua and The area	results.	TT: -1.	
Feb 2002	С	Select Program Theory Development Consultant (If	The Appliance program is being redesigned. An updated program	High	
		RFP was issued)	logic and theory should be		
		Ki i was issued)	developed.		
	D	Select Market Progress	See Row B	High	
		Report Consultant		8	
	Е	Develop network for sales		High	
		data collection; recruit		C	
		retailers, develop collection			
		forms; come to agreement			
		with implementation			
		contractor regarding their role			
	Г	in data collection.		TT' 1	
	F	Develop Survey Instruments		High	
		for selected market segments			
April	G	(consumers, retailers, etc) Decide if RFP for	Results of Program Theory	Moderate	
2002		development of new market	Development work should be	1410401410	
		penetration curves is needed	available, and based on the results		
		and, if so, issue an RFP	of that work the MA utilities will		
			decide whether new penetration		
			curves are needed in order to be		
			consistent with the revised program		
			theory.		

When		What To Do	Why To Do It	Priority
May 2002	Н	Issue an RFP for quantification of non-energy benefits	May need to be separate from MPER evaluation.	Moderate to low
	Ι	Select consultant if RFP for help in developing market penetration curves was issued in April	The Appliance program is being redesigned. Updated program penetration curves may be needed.	Moderate
	J	Finalize what market indicators need to be tracked in 2002 and issue necessary RFP(s)	Once the plan theory has been reviewed it is important to initiate the appropriate data collection activities to ensure timely results.	High
June 2002	K	Select non-energy benefits consultant	If separate consultant is desired.	Moderate
	L	Evaluation contractor implements surveys		High
July-Dec 2002	M	Review study results as they come in and incorporate findings into program implementation efforts as appropriate.		High
Dec. 2002	N	Draft MPER 1		
Jan	0	Final MPER 1		
2003	P	Review market research and literature results from 2002 and decide what, if any, changes in market indicators should be implemented in 2003.	New indicators need to be integrated into existing data collection protocols and surveys.	High
	Q	Based on review of market indicator research results, decide whether long term market penetration curves need to be updated and if outside consultant help is necessary, and, if so, issue RFP or hire same consultant used in the previous year to help	It makes sense to address this early in the year so that if changes are necessary, the results will be available in ample time for incorporating the results into the annual DSM report filings.	High
March 2003	R	Review Survey instruments for changes; recruit new retailers if there was attrition from previous year	It will be necessary to maintain the sales data collection network; quality of network is key to value of data.	High

When		What To Do	Why To Do It	Priority
	S	Re-estimate market penetration curves based on data collected in 2002	The Appliance program is being redesigned. Updated program penetration curves may be needed.	High
June 2003	T	Implement surveys	Need to incorporate results into program	High
July – Dec 2003	U	Review study results as they come in and incorporate findings into program implementation efforts as appropriate		High
Dec- 2003	V	Draft MPER 2		
January 2004	W	Final MPER 2		
Feb 2004	X	Review market research results from 2003 and decide what market indicators should be tracked in 2004	The earlier these decisions are made the sooner the necessary studies can be started and the results made available to the utilities.	High
	Y	Based on review of market indicator research results, decide whether long term market penetrations need to be updated and if outside consultant help is necessary, and, if so, issue RFP or hire same consultant used in the previous year to help	It makes sense to address this early in the year so that if changes are necessary, the results will be available in ample time for incorporating the results into the annual DSM report filings.	High
April 2004	Z	Review Survey instruments for changes; recruit new retailers if there was attrition from previous year	It will be necessary to maintain the sales data collection network; quality of network is key to value of data.	High
	AA	Re-estimate market penetration curves based on data from 2003	The Appliance program may be modified. Updated program penetration curves may be needed.	Moderate
June 2004	AB	Implement Surveys	Need to incorporate results into program	High
July-Dec 2004	AC	Review study results as they come in and incorporate findings into program implementation efforts as appropriate		High
Dec 2004	AD	Draft MPER 3		

When		What To Do	Why To Do It	Priority
Jan	AE	Final MPER 3		
2005				

Program tracking data will continue to be developed by the utilities in association with their implementation contractor on a quarterly basis. The evaluation contractor will prepare the quarterly program progress tracking reports and the MPER, which provides the annual program evaluation results. The MPER will be prepared on an annual basis. It is critical that the evaluation contractor and the utilities meet on a regular basis, by phone or in person, to ensure that the evaluation contractor is gaining access to all program data and decisions on a consistent and timely basis. Thus, we recommend team meetings be held monthly with the implementation contractor, the utilities and the evaluation contractor attending in-person or by phone.

The recommended budget for the evaluation totals \$420,000 at the low end to \$760,000 at the high end for the three-year period. This represents about 3% on the low end of total program expenditures and 6% on the high end. The high-end budget assumes implementation of a sales data tracking process that will provide a robust level of precision and accuracy as compared to the low-end budget, as well as an appliance saturation survey for Massachusetts and participation in CEE appliance initiative research and evaluation efforts. A medium-level budget is also proposed, which includes the same activities as the high-level budget, yet assumes a lower level of precision and accuracy for the sales tracking data. This medium-level budget is \$605,000, representing 5% of the total program budget. The low level budget assumes the less precise sales data tracking effort and participation in CEE but with no appliance saturation survey.

We recommend that the utilities consider hiring a single evaluation contractor for year one, with an option for renewal each of the two following years. This approach provides continuity in program evaluation and reduces administrative costs through reduced time in developing additional requests for proposals and contracting effort. In addition use of a single contractor enhances the ability of the contractor to provide a cost-effective and timely product. If any activities are carried out by the implementation contractor—such as mystery shopping, collection of sales tracking data, or interviews with retailers—these should be conducted with guidance from the evaluation contractor.

We recommend that the Massachusetts utilities also explore coordination with other entities in the Northeast region to conduct regional sales data collection and market share tracking. Such an approach could reduce overall evaluation costs, while improving the quality of the sales tracking data

THE EVOLUTION OF THE ENERGY STAR® APPLIANCE PROGRAMS IN MASSACHUSETTS

A CONCEPT PLAN FOR 2002 - 2004

Prepared by:

National Grid, USA NSTAR Electric Unitil, Fitchburg Gas & Electric Western Massachusetts Electric For:

The Massachusetts Non-Utility Parties

The Evolution of the ENERGY STAR® Appliance Programs in Massachusetts

A Concept Plan for 2002 - 2004

INTRODUCTION

The Massachusetts ENERGY STAR® Appliance Program is designed to support the development, introduction, and sale of energy efficient refrigerators, room air conditioner, dishwashers, and clothes washers in the Commonwealth. Utility sponsors of the Massachusetts effort implement the program consistent with the NEEP¹ Northeast Regional ENERGY STAR® Appliance Initiative whose overall goal for the initiative is to create and sustain positive change in the residential appliance market, increasing the availability, consumer acceptance, and use of energy efficient appliances.

This document, specifically intended to satisfy a 2001 utility program metric², describes the concept plan of the participating utilities for the ENERGY STAR Appliance Program in

¹ Northeast Energy Efficiency Partnerships, Inc.

² **ES APPLIANCES 3** - By December 31, 2001, develop an updated program design document for the Massachusetts aspects of the NEEP Northeast Regional Energy Star Appliance Initiative that includes: planned program refinements; the timeline and implementation strategy for those refinements; and, a joint, multi-year program evaluation and market progress reporting plan for assessing progress in meeting program and market objectives.

Massachusetts for the next three years assuming SBC funding is available. The plan is being developed to guide program implementation, although market and program progress will be assessed on a regular basis and adjustments to the plan will likely be needed over time.

BACKGROUND

When the appliance program efforts began targeting high efficiency clothes washers in 1998, many market barriers existed. Some of the key initial barriers included:

- Limited ENERGY STAR® product availability;
- Higher first cost than standard efficiency equipment;
- Lack of consumer awareness of the energy and other benefits of ENERGY STAR appliances; and,
- Lack of retailer/supplier interest in and support of ENERGY STAR appliances.

The Massachusetts utilities have been successful in reducing many of the key barriers (particularly for energy efficient clothes washers) through aggressive program strategies. For example, the utilities have helped increase the market share of ENERGY STAR® clothes washers from 7% to over 20% by providing approximately 50,000 consumer rebates since September 1998. Additional program and market effects have been attributed to program efforts including:

- A reduction in the average incremental cost of ENERGY STAR® clothes washers of over \$150;
- An increase in the number of manufacturers producing ENERGY STAR® labeled clothes washers (from 6 to 18);
- An increase in the number of qualifying products (from 15 to 81); and,
- An increase in consumer awareness of ENERGY STAR® (from 6% to over 19%).

Several other important changes to the market place have occurred. By all accounts and market data, the ENERGY STAR® label/program has become widespread and popular (nationally) with manufacturers, retailers, and consumers. This represents an important achievement and a solid foundation/opportunity for continued efforts in this market. The appliance programs are also achieving their longer-term program/market goals as federal efficiency standards for several key appliances (most notably clothes washers) have been promulgated and/or implemented. In response to improved federal standards, the ENERGY STAR efficiency specifications for several of these key appliances – refrigerators and room air conditioners - have also been updated recently. And finally, the appliance programs around the country have individually and collectively established a high level of credibility with appliance manufacturers and retailers who are looking to the utilities and other regional and national market transformation organizations for program leadership and cooperative relationships.

WHY MESS WITH SUCCESS?

Clearly, the Massachusetts utilities have had tremendous impacts in the appliance market, and it would seem that there is "clear sailing ahead." However, the progress made has created some additional challenges. For example, because of the increasing federal efficiency standards and ENERGY STAR program specifications, the incremental (per unit) energy savings now available to the appliance programs are not as significant as in the recent past, creating program design/cost-effectiveness issues. Furthermore, "per unit" program strategies such as consumer rebates tend to create budget issues as the market share for targeted products grow.

Accounting for past and current program successes and experiences, and looking ahead to the challenges presented by the changing appliance market, the Massachusetts utilities and other program sponsors believe there is a need and an opportunity to continue to improve the program approach. The following are market and program objectives the sponsors believe can be better addressed by a refined program strategy going forward:

- 1. Sustaining or increasing ENERGY STAR® product market share with stagnant or reduced program funding levels;
- 2. Reducing costs and budget fluctuations associated with consumer rebates for products with increasing market share;
- 3. Leveraging utility investments to increase investments by the market actors in the industry;
- 4. Increasing access to the expertise of the industry market actors; and,
- 5. Generally continuing to move to a market-driven, market-based program design.

THE MASSACHUSETTS PLAN FOR 2002 - 2004

The market background and assessment contained in the original NEEP market transformation planning documents and the individual utilities program plans are still quite valid to a large degree, and all program elements going forward will build off past and current implementation strategies. Therefore, the proposed appliance program plan (the "Plan") outlined below is really a "Reader's Digest" version of a more comprehensive (albeit somewhat informal) plan for the appliance market. The Plan will guide the implementation efforts of the Massachusetts utilities for the next three years, but is purposefully flexible. Part of the flexibility allows the program to promote and pursue different arrangements with the individual sub-market segments (i.e., national/chain market actors vs. regional/independent market actors).

The following are summaries of highlights and changes regarding key program elements going forward:

KARA: This section will need to be EDITED and SUPPLEMENTED as you all see fit.

Regional Coordination. The Massachusetts utilities will administer the ENERGY STAR® appliance program in coordination with other utilities in the region through NEEP. Administration includes working closely with the other utilities and contractors to efficiently develop and implement cooperative program elements, to provide access to regional and national market actors, and to cost-effectively ensure adequate planning and implementation oversight.

Mass Marketing. Greatly reduced resources and focus on development and placement of broad-based MASS/New England marketing campaigns. Emphasize cooperative relationships and through Industry Initiated Promotional Campaigns (IIPCs). Coop advertising, public displays, and points of purchase (POP) materials will be used to maintain consumer awareness and buyer motivation. Enhancements to the current web site will be important to sustain in order to offer customer, retailers, and manufacturers an accurate source for program changes in the region.

Retailer Support. Continue... say something smart about POP marketing materials, training. Sales training will also be given high priority; marketing to consumers is not effective if salespeople at the point of purchase do not support the marketing message. In addition, high natural turnover in the retail industry necessitates a need to monitor and upgrade knowledge in sales staff on a regular basis. Differences national chain vs. local independents. May selectively explore and use sales incentives (SPIFFS), sales contests, and other promotional strategies to help ensure data reporting is maintained (if appropriate).

Consumer Incentives. End of CW "steady state" consumer rebates. Limited duration utility provided rebates may be used for special promotions. Incentives provided through IIPCs. The utilities have been successful in raising the clothes washer standard and reducing the incremental cost of ENERGY STAR clothes washers, thus will be able to eliminate the current \$50 rebate in 2002. As far as ENERGY STAR refrigerators, room A/C, dishwashers, these appliances still have incremental cost differential and less tangible non-energy benefits. Financial incentive in the form of rebates, spiffs, and dealer cash incentives for these appliances may be needed moving forward. These strategies will be used in conjunction with the above-mentioned marketing support. Rebates, spiffs and other incentives will likely be used in more of a promotional/limited time approach rather than a full year program offering.

Industry Initiated Promotional Campaigns. Industry Initiated Promotional Campaigns (IIPCs) would rely on key market actors to use the market momentum created by the NEEP/utility programs and the current market conditions to promote and deliver ENERGY STAR® appliance products to the sponsors' customers through normal distribution channels. Financial assistance and other support from the sponsor's would be made available to appliance manufacturers, importers, distributors and retailers for negotiated and approved IIPC strategies to increase sales of ENERGY STAR® products. The IIPCs would be evaluated (and funded) based on the following attributes:

- cooperation up and down the retail chain (e.g., manufacture/retailer teams)
- leverage of utility money (or visa/versa);
- impacts (i.e., number and type of products sold or other indicators of success such as ENERGY STAR® brand or product awareness);
- consistency and cooperation with other programs (i.e., regional, national)
- regional/geographic coverage;
- data provision (i.e., type, quality, timeliness);
- cost:
- cost-effectiveness; and,
- innovation.

Although the details of this important approach have yet to be worked out, IIPC proposal solicitation, review, and negotiations would explicitly require significant matching resources (from the Industry) to ensure the success of the IIPCs (or to be awarded funding for that matter).

The NEEP/Massachusetts program sponsors are currently in discussions with major manufacturers and a variety of national and independent retailers to solicit input on developing and negotiating mutually beneficial agreements for IIPCs. Similar industry initiated efforts being pursued by NYSERDA and in the Northwest may better inform us of how to solicit and evaluate industry proposals.

EVALUATION AND MARKET RESEARCH

The Massachusetts utility sponsors are in the process of completing evaluation and market progress reporting plans for the appliance program and market. It is anticipated that the plan will guide evaluation, market research and progress reporting for the next three years. Please refer to MPER planning document [NOTE: SPECIFICALLY NAME DOCUMENT.] located in Appendix X for the detailed plan.

PROGRAM IMPLEMENTATION ACTIVITY TIMELINE 2002-2004

See Appendix X+1

BUDGETS 2002-2004

See Appendix X+2

CONCLUSION

Docket D.T.E. 03-26, Exhibit D.T.E. 1-2a Residential 2001 ENERGY STAR Appliance 3

"To infinity and beyond..." "Life after rebates..." "Going where Pete Bardhi never dreamed..." "What are the metrics going to look like...?"